

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) Apparatus for separating CO₂ from a gas stream containing CO₂ and an anaesthetic gas, the apparatus comprising a gas separation device and means for transporting the gas stream at a periodically varying flow rate through the gas separation device, the device comprising a supported carrier liquid membrane in which the carrier species is an organic base present at a concentration sufficient to provide a separation factor α (CO₂, a),

$$\text{where } \alpha (\text{CO}_2, a) = \frac{R_{\text{CO}_2}}{P_{\text{CO}_2}} \cdot \frac{p_a}{R_a}$$

wherein R represents permeation rate, p partial pressure of a gas in the feed gas stream and a an anaesthetic gas, greater than unity.

2. (Original) Apparatus as claimed in claim 1, wherein the carrier species concentration is such as to provide an α value of at least 15.

3. (Original) Apparatus as claimed in claim 2, wherein the α value is at least 60.

4. (Currently amended) Apparatus as claimed in ~~any preceding~~ claim 1, wherein the device comprises a supported carrier liquid membrane in which the carrier is present in a concentration of at least 4.5 mol.dm⁻³.

5. (Original) Apparatus as claimed in claim 4, wherein the carrier is present in a concentration within the range of from 4.5 to 6 mol. dm^{-3} .

6. (Currently amended) Apparatus as claimed in any preceding claim 1, wherein the base is selected from the group consisting of diethanolamine, ethanolamine and ethylenediamine.

7. (Cancel)

8. (Cancel)

9. (Cancel)

10. (Currently amended) Apparatus as claimed in any preceding claim 1, wherein the membrane support is a porous polymer.

11. (Original) Apparatus as claimed in claim 10, wherein the polymer is a polysulphone or polyacrylonitrile.

12. (Currently amended) Apparatus as claimed in any preceding claim 1, wherein the membrane is a hollow fibre membrane.

13. (Original) Apparatus as claimed in claim 12, wherein the membrane is in the form of a fibre bundle.

14. (Currently amended) Apparatus as claimed in any preceding claim 1, which also comprises means for generating a sweep gas stream.

15. (Original) Apparatus as claimed in claim 14, which comprises means for humidifying the sweep gas stream.

16. (Original) A device for separating gases which comprises a supported carrier liquid membrane in which the carrier is an organic base present in a concentration of at least $4.5 \text{ mol} \cdot \text{dm}^{-3}$.

17. (Original) A device as claimed in claim 16, wherein the carrier is present in a concentration within the range of from 4.5 to $6 \text{ mol} \cdot \text{dm}^{-3}$.

18. (Currently amended) A device as claimed in claim 16 or claim 17, wherein the base is selected from the group consisting of diethanolamine, ethanolamine and ethylenediamine.

19. (Cancel)

20. (Cancel)

21. (Cancel)

22. (Original) A device as claimed in claim 21, wherein the polymer is a polysulphone or polyacrylonitrile.

23. (Currently amended) A device as claimed in any one of claims 16 to 22 claim 16, wherein the membrane support is in the form of a hollow fibre.

24. (Original) A device as claimed in claim 23, wherein the membrane support is in the form of a fibre bundle.

25. (Currently amended) A device as claimed in any one of claims 16 to 22 claim 16, wherein the membrane support is in sheet form.

26. (Currently amended) A device as claimed in claim 16, in which the gases to be separated are for separating carbon dioxide from a gas stream containing carbon dioxide and an anaesthetic gas, which device comprises a supported carrier liquid membrane assembly in which the carrier is an organic base present in a concentration of at least 4.5 mol.dm⁻³.

27. (Cancel)

28. (Cancel)

29. (Cancel)

30. (Cancel)

31. (Cancel)

32. (Cancel)

33. (Cancel)

34. (Cancel)

35. (Currently amended) Apparatus as claimed in ~~any one of claims 1 to 13~~ claim 1, which also comprises a second supported carrier liquid membrane comprising the carrier species, means for transporting a sweep gas past the second membrane, a mass of carrier liquid contacting both membranes, and means for circulating carrier liquid past the membranes.

36. (New) A method of separating CO₂ from a gas stream containing CO₂ and an anaesthetic gas, which comprises transporting the gas stream at a periodically varying flow rate through a gas separation device, said device comprising a supported carrier liquid membrane in which the carrier species is an organic base present at a concentration sufficient to provide a separation factor α (CO₂, a),

$$\text{where } \alpha (\text{CO}_2, a) = \frac{R_{\text{CO}_2}}{P_{\text{CO}_2}} \cdot \frac{p_a}{R_a}$$

wherein R represents permeation rate, p partial pressure of a gas in the feed gas stream and a an anaesthetic gas, greater than unity.

37. (New) A method for separating gases in a gas stream, which comprises contacting the gas stream with a supported carrier liquid membrane in which the carrier is an organic base present in a concentration of at least 4.5 mol.dm⁻³.

38. (New) A method as claimed in claim 37, in which the gas stream comprises carbon dioxide and an anaesthetic gas.

39. (New) A method as claimed in claim 37, in which the gas stream is transported at a periodically varying flow rate over the supported carrier liquid membrane.